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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SAN MARTIN, EDGARDO

ART UNIT PAPER NUMBER

2837

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,799

Applicant(s)

MCCARTY, MICHAEL W.

Examiner

Edgardo San Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/12/04;1/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because:

- In figure 1B the function blocks need to be labeled as to which function, element or step they represent.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vedder, Jr. et al. (US 6,179,997) in view of Naman (US 2,916,101).

Vedder, Jr. et al. teach a sparger (Fig.1, Item 118) adapted for placement within a duct (Fig.1, Item 100), the duct having a first fluid flow substantially parallel to a longitudinal axis defined by the duct, the sparger comprised of a housing having an interior chamber (Fig.1, Item 120) for receiving a second fluid flow having an associated pressure higher than the first fluid flow; and a plurality of fluid passageways (Fig.1, Item 128) formed by the housing to allow the second fluid flow to pass through the chamber to enter the first fluid flow at a decreased pressure, but fail to disclose wherein the housing is shaped to have an aerodynamic profile as encountered by the first fluid flow.

On the other hand, Naman teaches a sound absorbing structure for a fluid flow conduit wherein the sound absorbing structure is shaped to have an aerodynamic profile as encountered by the fluid flow (Figs.4 – 6).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Naman shape with the Vedder, Jr. et al. design because the aerodynamic profile would improve the flow profile of the fluid decreasing the formation of undesired areas of turbulence that could create flow resistance.

3. Claims 2 – 4, 6, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vedder, Jr. et al. (US 6,179,997) in view of Naman (US 2,916,101), and further in view of Wears et al. (US 6,026,859).

Vedder, Jr. et al. and Naman teach the limitations discussed in a previous rejection, but fail to disclose the limitations described in the abovementioned claims.

Regarding claims 2 – 4, 8 and 10, Wears et al. teach a fluid pressure reduction device (Fig.4) wherein a housing is comprised of a plurality of stacked disks (Fig.4, Items 32(a,b) and 34(a,b)) aligned about a central axis of the stacked disks; wherein each disk is selectively positioned in the stack of disks to form the fluid passageways, each disk having (a) fluid inlet slots (Fig.4, Item 40) partially extending from a hollow disk center towards a disk perimeter, (b) fluid outlet slots (Fig.5, Item 42) partially extending from the disk perimeter towards the disk center, and (c) at least one plenum slot (Fig:3, Item 44) extending through the disk to enable fluid flow from the fluid inlet slots in one disk to the plenum slots in adjacent disks and to the fluid outlet slots in at least one disk, wherein the fluid flow path is split into a plurality of axial directions along the central axis, then into the plenum slots with a plurality of lateral flow directions, and then distributed through multiple outlet slots in at least one disk; and wherein the plenum slot in the adjacent disk also enables fluid flow from the fluid inlet slots in one disk to be coupled to multiple fluid outlet slots in respective disks in the stack adjacent to the adjacent disk (Fig.5; Col.3, Line 20 – Col.4, Line 63).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Wears et al. configuration with the Vedder, Jr. et

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al. and Naman design because the Wears et al. disks configuration would provide a reduction in fluid pressure maintaining a steady flow of the fluid, and in the case that the flow capacity changes, the flow capacity of the fluid after passing through the pressure reduction device would be substantially linear.

Regarding claim 7, the Examiner considers that it would have been an obvious matter of design choice to employ a plurality of spargers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect to claims 6 and 11, the Examiner considers that it would be an obvious matter of design choice to eliminate elements from the Wears et al. configuration in order to obtain a device wherein the fluid inlet slots and the fluid outlet slots are formed within a flow sector and the plenum slot is formed a plenum sector wherein the flow sector and plenum sector are joined to form an individual disk, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184, furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

4. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vedder, Jr. et al. (US 6,179,997) in view of Naman (US 2,916,101) and Wears et al. (US 6,026,859), and further in view of Sherikar et al. (US 6,739,426).

Vedder, Jr. et al., Naman and Wears et al. teach the limitations discussed in a previous rejection, but fail to disclose wherein each respective fluid passageway is

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comprised of a tortuous flow path with each tortuous flow path remaining independent from each other in traversing through the disk.

Nevertheless, Sherikar et al. teach a pressure reduction system (Fig.5, Item 12) comprising fluid passageway being comprised of a tortuous flow path (Fig.5, Item 14 with each tortuous flow path remaining independent from each other in traversing through a conduit (Fig.2; Col.5, Lines 4 - 24).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to employ the Sherikar et al. configuration with the Vedder, Jr. et al., Naman and Wears et al. design because it would provide a more uniform flow while reducing the magnitude of the fluid velocity peak.

Conclusion

5. The attached hereto PTO Form 892 lists prior art made of record that the Examiner considered it pertinent to applicant's disclosure.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edgardo San Martín
Primary Examiner
Art Unit 2837
Class 181
November 8, 2005